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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/616,314	07/17/2000	Mikio Kuwahara	NIT-209	7237

7590 01/16/2003

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EXAMINER

LEI, TSULEUN R

ART UNIT

PAPER NUMBER

2684

DATE MAILED: 01/16/2003

6

Remailed

Please find below and/or attached an Office communication concerning this application or proceeding.



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7590 12/04/2002
Beall Law Offices
104 East Hume Avenue
Alexandria, VA 22301

EXAMINER

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DATE MAILED: 12/04/2002

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Office Action Summary

Application No.

09/616,314

Applicant(s)

KUWAHARA ET AL.

Examiner

T. Richard Lei

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5,8-12,15-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5,8-12,15-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 17, 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Drawings

Figures 2-5 should be designated by a legend such as -- Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless-

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5, 8-12 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by van Heeswyk et al. (U. S. Patent 6,298,050).

Regarding Claim 1, van Heeswyk teaches a wireless positioning method for estimating a position of a terminal by using signals transmitted from at least first and second base stations in a cellular communication system (Col.1, Lines 7-10), comprising: a first step of canceling a receiving signal from the first base station of receiving strength stronger than that from the second base station (Col.2, Lines 36-52); and a second step of processing the receiving signal from the second base station by the terminal after the first step (Col.2, Lines 36-52).

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Regarding Claim 2, van Heeswyk teaches a wireless positioning method according to claim 1, further comprising: a third step of storing the receiving signals from the first and second base stations into a storing circuit in the terminal (Col.2, Lines 38-49, Note: detect, decode and reconstruct need storing circuit); a fourth step of forming a replica of the receiving signal of the first base station from the stored signals (Fig.7, User signal reconstruction 202); and a fifth step of subtracting the replica from the stored signals (Fig.7, subtractors 205).

Regarding Claim 3, van Heeswyk teaches a wireless positioning method according to claim 2, further comprising: a sixth step of forming the replica by processing a component of the receiving signal from the first base station in a procedure of despreading, demodulation and resspreading by using the code division multiple access (CDMA) system (Col.6, Lines 23-49).

Regarding Claim 4, van Heeswyk teaches a wireless positioning method according to claim 3, wherein the sixth step has a seventh step of amplifying a receiving signal after the despreading, demodulation and resspreading (Fig.4 116; Col.6, Lines 29-49).

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Regarding Claim 5, van Heeswyk teaches a wireless positioning method according to claim 4, wherein the seventh step includes an eighth step of correcting at least one of amplitude fluctuation and phase rotation by a signal propagation path from the first base station (Fig.8, multipath reconstructor; and Col.8, Lines 59-63).

Claim 6 is canceled by the Applicant.

Claim 7 is canceled by the Applicant

Regarding Claim 8, van Heeswyk teaches a wireless positioning apparatus comprising: a signal processor for canceling a receiving signal from a first base station of which receiving strength is stronger than that of a receiving signal from a second base station in a cellular communication system (Col.2, Lines 35-54); and a CPU for processing an output signal of the signal processor (Official Notice: Software control of CDMA mobile terminal is common and well known.).

Regarding Claim 9, van Heeswyk teaches a wireless positioning apparatus according to claim 8, further comprising a

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storing circuit for storing receiving signals from the first and second base stations, wherein the signal processor has: a replica signal generating circuit for generating a replica of the receiving signal of the first base station from the signals stored in the storing circuit; and a subtraction circuit for subtracting the replica from the stored signals (Figs. 6, 7 and 8).

Regarding Claim 10, van Heeswyk teaches a wireless positioning apparatus according to claim 9, wherein the replica signal generating circuit has: a despreading circuit of despreading a component of a receiving signal from the first base station by using the code division multiple access system (CDMA); a demodulating circuit for demodulating an output signal of the despreading circuit; and a respreading circuit for respreading an output signal of the demodulating circuit (Figs. 6, 7, and 8).

Regarding Claim 11, see Claim 4 for van Heeswyk's teaching.

Regarding Claim 12, see Claim 5 for van Heeswyk's teaching.

Claim 13 is canceled by the Applicant

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Claim 14 is canceled by the Applicant

Regarding Claim 15, van Heeswyk teaches a base station transmission timing measuring apparatus comprising: timing measuring means measuring for transmission timings of signals of first and second base stations from timings of signals received from the first and second base stations (Fig.6 and Fig.9; Col.7, Lines 21-25), and interference canceling means for canceling the receiving signal from the first base station of which strength is stronger than that of the receiving signal from the second base station (Col.2, Lines 36-52).

Claim 17 is canceled by the Applicant

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior

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art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over van Heeswyk in view of Casabona et al. (U.S. Patent 5,872,540).

Regarding Claim 16, van Heeswyk teaches a base station transmission timing measuring apparatus according to claim 15. But van Heeswyk failed to teach the use of AGC circuit in the receiver. However, Casabona teaches such circuit in the receiver with the feature of radio frequency interference cancellation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Casabona into the teaching of van Heeswyk to ease the use of such interference cancellation mobile terminal. Van Heeswyk as modified by Casabona teaches an automatic gain control circuit (Casabona, Fig.2, AGC) to which an output signal of the interference canceling means is supplied.

Conclusion

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5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yang (U.S. Patent 5,872,776) teaches a method of signal detection and interference cancellation for CDMA applications.

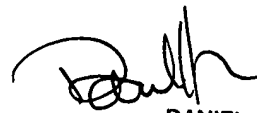
Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Richard Lei whose telephone number is 703-305-4828. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dan Hunter can be reached on 703-308-6732. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5403 for regular communications and 703-308-5403 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

TRL
TRL

November 27, 2002



DANIEL HUNTER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600